

SEQUENCE LISTING

<110> Roche Diagnostics GmbH

<120> Expression of alkaline phosphatase in yeast

<130> 5387/00/

<140>

<141>

<160> 38

<170> PatentIn Ver. 2.1

<210> 1

<211> 1476

<212> DNA

<213> Bovine

<400> 1

```

gaattcctca tcccagctga ggaggaaaac cccgccttct ggaaccgcca ggcagcccag 60
gcccttgatg tagccaagaa gttgcagccg atccagacag ctgccaagaa tgtcatcctc 120
ttcttggggg atgggatggg ggtgcctacg gtgacagcca ctcggtacct aaaggggcag 180
atgaatggca aactgggacc tgagacaccc ctggccatgg accagttccc atacgtggct 240
ctgtccaaga catacaacgt ggacagacag gtgccaagaca gcgcaggcac tgccactgcc 300
tacctgtgtg ggggtcaagg caactacaga accatcggtg taagtgcagc cgcccgtac 360
aatcagtga acacgacacg tgggaatgag gtcacgtctg tgatcaaccg ggccaagaaa 420
gcagggaagg ccgtgggagt ggtgaccacc accaggggtg agcatgcctc cccagccggg 480
gcctacgcgc acacggtgaa ccgaaactgg tactcagacg ccgacctgcc tgctgatgca 540
cagaagaatg gctgccagga catcgccgca cagctggtct acaacatgga tattgacgtg 600
atcctgggtg gaggccgaat gtacatgttt cctgagggga ccccagaccc tgaataccca 660
gatgatgcca gtgtgaatgg agtccggaag gacaagcaga acctgggtgca ggaatggcag 720
gccaagcacc agggagccca gtatgtgtgg aaccgcactg cgctccttca ggcggccgat 780
gactccagt taacacacct catgggcctc tttgagccgg cagacatgaa gtataatgtt 840
cagcaagacc acaccaagga cccgaccctg gcggagatga cggaggcggc cctgcaagt 900
ctgagcagga acccccgggg cttctacctc ttcgtggagg gaggccgcat tgaccacggt 960
caccatgacg gcaaagctta tatggcactg actgaggcga tcatgtttga caatgccatc 1020
gccaaaggcta acgagctcac tagcgaactg gacacgctga tccttgtcac tgcagaccac 1080
tcccatgtct tctcttttgg tggctacaca ctgcgtggga cctccatttt cggctctggc 1140
ccgggcaagg ccttagacag caagtccctac acctccatcc tctatggcaa tggcccaggc 1200
tatgcgcttg gcgggggctc gaggcccgat gttaatggca gcacaagcga ggaaccctca 1260
taccggcagc aggcggcgt gcccttggt agcgagaccc acgggggcga agacgtggcg 1320
gtgttcgcgc gaggcccgca ggcgcacct gtgcacggcg tgcaggagga gaccttcgtg 1380
gcgcacatca tggcctttgc gggctgcgtg gaggcctaca ccgactgcaa tctgccagcc 1440
cccgccaccg ccaccagcat ccccgactag ggtacc 1476

```

<210> 2

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 2

gcgcgaattc ctcattcccag ctgaggagga aaaccccggc

| | | | | | | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> | 4 | | | | | | | | | | | | | | | |
| Leu | Ile | Pro | Ala | Glu | Glu | Glu | Asn | Pro | Ala | Phe | Trp | Asn | Arg | Gln | Ala | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Ala | Gln | Ala | Leu | Asp | Val | Ala | Lys | Lys | Leu | Gln | Pro | Ile | Gln | Thr | Ala | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Ala | Lys | Asn | Val | Ile | Leu | Phe | Leu | Gly | Asp | Gly | Met | Gly | Val | Pro | Thr | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Val | Thr | Ala | Thr | Arg | Ile | Leu | Lys | Gly | Gln | Met | Asn | Gly | Lys | Leu | Gly | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Pro | Glu | Thr | Pro | Leu | Ala | Met | Asp | Gln | Phe | Pro | Tyr | Val | Ala | Leu | Ser | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Lys | Thr | Tyr | Asn | Val | Asp | Arg | Gln | Val | Pro | Asp | Ser | Ala | Gly | Thr | Ala | |
| | | | 85 | | | | | | 90 | | | | | 95 | | |
| Thr | Ala | Tyr | Leu | Cys | Gly | Val | Lys | Gly | Asn | Tyr | Arg | Thr | Ile | Gly | Val | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Ser | Ala | Ala | Ala | Arg | Tyr | Asn | Gln | Cys | Asn | Thr | Thr | Arg | Gly | Asn | Glu | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Val | Thr | Ser | Val | Ile | Asn | Arg | Ala | Lys | Lys | Ala | Gly | Lys | Ala | Val | Gly | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Val | Val | Thr | Thr | Thr | Arg | Val | Gln | His | Ala | Ser | Pro | Ala | Gly | Ala | Tyr | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Ala | His | Thr | Val | Asn | Arg | Asn | Trp | Tyr | Ser | Asp | Ala | Asp | Leu | Pro | Ala | |
| | | | | 165 | | | | | 170 | | | | | 175 | | |
| Asp | Ala | Gln | Lys | Asn | Gly | Cys | Gln | Asp | Ile | Ala | Ala | Gln | Leu | Val | Tyr | |
| | | 180 | | | | | | 185 | | | | | 190 | | | |
| Asn | Met | Asp | Ile | Asp | Val | Ile | Leu | Gly | Gly | Gly | Arg | Met | Tyr | Met | Phe | |
| | | 195 | | | | | 200 | | | | | 205 | | | | |
| Pro | Glu | Gly | Thr | Pro | Asp | Pro | Glu | Tyr | Pro | Asp | Asp | Ala | Ser | Val | Asn | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Gly | Val | Arg | Lys | Asp | Lys | Gln | Asn | Leu | Val | Gln | Glu | Trp | Gln | Ala | Lys | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |

His Gln Gly Ala Gln Tyr Val Trp Asn Arg Thr Ala Leu Leu Gln Ala
 245 250 255
 Ala Asp Asp Ser Ser Val Thr His Leu Met Gly Leu Phe Glu Pro Ala
 260 265 270
 Asp Met Lys Tyr Asn Val Gln Gln Asp His Thr Lys Asp Pro Thr Leu
 275 280 285
 Ala Glu Met Thr Glu Ala Ala Leu Gln Val Leu Ser Arg Asn Pro Arg
 290 295 300
 Gly Phe Tyr Leu Phe Val Glu Gly Gly Arg Ile Asp His Gly His His
 305 310 315 320
 Asp Gly Lys Ala Tyr Met Ala Leu Thr Glu Ala Ile Met Phe Asp Asn
 325 330 335
 Ala Ile Ala Lys Ala Asn Glu Leu Thr Ser Glu Leu Asp Thr Leu Ile
 340 345 350
 Leu Val Thr Ala Asp His Ser His Val Phe Ser Phe Gly Gly Tyr Thr
 355 360 365
 Leu Arg Gly Thr Ser Ile Phe Gly Leu Ala Pro Gly Lys Ala Leu Asp
 370 375 380
 Ser Lys Ser Tyr Thr Ser Ile Leu Tyr Gly Asn Gly Pro Gly Tyr Ala
 385 390 395 400
 Leu Gly Gly Gly Ser Arg Pro Asp Val Asn Gly Ser Thr Ser Glu Glu
 405 410 415
 Pro Ser Tyr Arg Gln Gln Ala Ala Val Pro Leu Ala Ser Glu Thr His
 420 425 430
 Gly Gly Glu Asp Val Ala Val Phe Ala Arg Gly Pro Gln Ala His Leu
 435 440 445
 Val His Gly Val Gln Glu Glu Thr Phe Val Ala His Ile Met Ala Phe
 450 455 460
 Ala Gly Cys Val Glu Pro Tyr Thr Asp Cys Asn Leu Pro Ala Pro Ala
 465 470 475 480
 Thr Ala Thr Ser Ile Pro Asp
 485

<210> 5

<211> 1476

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 5

```

gaattcttga ttccagctga agaagaaaat ccagcttttt ggaatagaca agctgctcaa 60
gctttggatg ttgctaagaa gttgcaacca attcaaactg ctgctaagaa tggtattttg 120
tttttgggtg atggtatggg tgttccaact gttactgcta ctagaatttt gaagggtcaa 180
atgaatggta agttgggtcc agaaactcca ttggctatgg atcaatttcc atacgttgct 240
ttgtctaaaga cttacaatgt tgatagacaa gttccagatt ctgctggtac tgctactgct 300
tacttggtg gtgttaaggg taattacaga actattgggtg tttctgctgc tgctagatac 360
aatcaatgta atactactag aggtaatgaa gttacttctg ttattaatag agctaagaag 420
gctggtaagg ctggttggtg tggtactact actagagttc aacatgcttc tccagctggg 480
gcttacgctc atactgttaa tagaaattgg tactctgatg ctgatttgcc agctgatgct 540
caaaagaatg gttgtcaaga tattgctgct caattgggtt acaatatgga tattgatgtt 600
attttgggtg gtggtagaat gtacatgttt ccagaaggta ctccagatcc agaataccca 660
gatgatgctt ctgttaatgg tgtagaaaag gataagcaaa atttggttca agaattggca 720
gctaagcatc aagggtgctc atatgtttgg aatagaactg ctttggttga agctgctgat 780
gattctagtg ttactcattt gatgggtttg tttgaaccag ctgatatgaa gtataatgtt 840
caacaagatc atactaagga tccaactttg gctgaaatga ctgaagctgc tttgcaagtt 900
ttgtctagaa atccaagagg tttttacttg tttggtgaag gtggtagaat tgatcatggt 960
catcatgatg gtaaggctta tatggctttg actgaagcta ttatgtttga taatgctatt 1020
gctaaggcta atgaattgac ttctgaattg gatactttga ttttggttac tgctgatcat 1080
agtcattgtt tttcttttgg tgggttacct ttgagaggta cttctatttt tgggttggct 1140
ccaggttaagg ctttggtatg taagtcttac acttctattt tgtatggtaa tgggtccagg 1200
tatgctttgg gtggtggttc tagaccagat gttaatggta gtactagtga agaaccatct 1260
tacagacaac aagctgctgt tccattggct agtgaaactc atggtggtga agatgttgct 1320
gtttttgcta gaggtccaca agctcatttg gttcatggtg ttcaagaaga aacttttggt 1380
gctcatatta tggcttttgc tgggtgtgtt gaaccatata ctgattgtaa tttgccagct 1440
ccagctactg ctactagtat tccagattaa ggtacc 1476

```

<210> 6

<211> 78

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 6

```

gcgcgaaattc ttgattccag ctgaagaaga aaatccagct ttttgggaata gacaagctgc 60
tcaagctttg gatgttgc 78

```

<210> 7

<211> 70

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 7

```

ccaaaaacaa aataacattc ttagcagcag tttgaattgg ttgcaacttc ttagcaacat 60
ccaaagcttg 70

```

<210> 8

<211> 69

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 8

```

gaatgttatt ttgttttttg gtgatggat ggggtgtcca actgttactg ctactagaat 60

```

69

<213> Artificial Sequence

<223> Description of Artificial Sequence: Artificial

```

ggaaattgat ccatagccaa tggagtttct ggacccaact taccattcat ttgacccttc 60
aaaattctag                                     70

```

<213> Artificial Sequence

<223> Description of Artificial Sequence: Artificial

```
gctatggatc aatttccata cgttgctttg tctaagactt acaatgttga tagacaagtt 60
ccagattctg c                                                    71
```

<213> Artificial Sequence

<223> Description of Artificial Sequence: Artificial

```
ccaatagttc tgtaattacc cttaacacca cacaagtaag cagtagcagt accagcagaa 60
tctggaactt g                                     71
```

<213> Artificial Sequence

<223> Description of Artificial Sequence: Artificial

gtaattacag aactattggt gtttctgctg ctgctagata caatcaatgt aatactacta 60
gaggtaatga ag 72

<213> Artificial Sequence

<223> Description of Artificial Sequence: Artificial

<400> 13

agtaacaaca ccaacagcct taccagcctt cttagctcta ttaataacag aagtaacttc 60
 attacctcta gtag 74

<210> 14

<211> 74

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 14

gctgttggtg ttgttactac tactagagtt caacatgctt ctccagctgg tgcttacgct 60
 catactgtta atag 74

<210> 15

<211> 68

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 15

caaccattct tttagcatc agctggcaaa tcagcatcag agtaccaatt tctattaaca 60
 gtatgagc 68

<210> 16

<211> 55

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 16

gatgctcaaa agaatgggtg tcaagatatt gctgctcaat tggtttaca tatgg 55

<210> 17

<211> 72

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 17

ccttctggaa acatgtacat tctaccacca cccaaaataa catcaatatt catattgtaa 60
 accaattgag ca 72

<210> 18

<211> 71

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 18

gtacatgttt ccagaaggta ctccagatcc agaataccca gatgatgctt ctgttaatgg 60

tgttagaaag g

71

<210> 19

<211> 73

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 19

catattgagc accttgatgc ttagcttgcc attcttgaac caaattttgc ttatcctttc 60
taacaccatt aac 73

<210> 20

<211> 71

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 20

gcatcaaggt gctcaatatg tttggaatag aactgctttg ttgcaagctg ctgatgattc 60
tagtggtact c 71

<210> 21

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 21

cttcatatca gctggttcaa acaaaccat caaatgagta aactagaat catc 54

<210> 22

<211> 59

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 22

gaaccagctg atatgaagta taatgttcaa caagatcata ctaaggatcc aactttggc 59

<210> 23

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 23

cctcttggat ttctagacaa aacttgcaaa gcagcttcag tcatttcagc caaagttgga 60
tccttag 67

<210> 24
 <211> 69
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Artificial

<400> 24
 gtctagaaat ccaagaggtt tttacttggt tgttgaaggt ggtagaattg atcatgggtca 60
 tcatgatgg 69

<210> 25
 <211> 73
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Artificial

<400> 25
 ccttagcaat agcattatca aacataatag cttcagtcaa agccatataa gccttaccat 60
 catgatgacc atg 73

<210> 26
 <211> 74
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Artificial

<400> 26
 gataatgcta ttgctaaggc taatgaattg acttctgaat tggatacttt gattttgggtt 60
 actgctgac atag 74

<210> 27
 <211> 73
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Artificial

<400> 27
 ccaaaccaaa aatagaagta cctctcaaag tgtaaccacc aaaagaaaaa acatgactat 60
 gatcagcagt aac 73

<210> 28
 <211> 73
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Artificial

<400> 28
 cttctatttt tggtttggct ccaggtaagg ctttggatag taagtcttac acttctattt 60
 tgtatggtaa tgg 73

<210> 29
 <211> 76
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Artificial

<400> 29
 ctagtactac cattaacatc tggcttagaa ccaccacca aagcataacc tggaccatta 60
 ccatacaaaa tagaag 76

<210> 30
 <211> 77
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Artificial

<400> 30
 gatgttaatg gtagtactag tgaagaacca tcttacagac aacaagctgc tgttccattg 60
 gctagtgaag ctcattg 77

<210> 31
 <211> 73
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Artificial

<400> 31
 caccatgaac caaatgagct tgtggacctc tagcaaaaac agcaacatct tcaccaccat 60
 gagtttccact agc 73

<210> 32
 <211> 74
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Artificial

<400> 32
 gctcatttgg ttcattggtg tcaagaagaa acttttgttg ctcattattat ggcttttgc 60
 gggtgtgttg aacc 74

<210> 33
 <211> 82
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Artificial

<400> 33
 gcgcggtacc ttaatctgga atactagtag cagtagctgg agctggcaaa ttacaatcag 60
 tgtatggttc aacacaacca gc 82

<210> 34
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 34
 gcgcgcctag gagatctaac atccaaagac g

31

<210> 35
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificial

<400> 35
 cgcgcgctag cggatccgca caaacgaag

29

<210> 36
 <211> 10
 <212> PRT
 <213> *Saccharomyces cerevisiae*

<400> 36
 Glu Ala Glu Ala Glu Phe Leu Ile Pro Ala
 1 5 10

<210> 37
 <211> 4
 <212> PRT
 <213> *Saccharomyces cerevisiae*

<400> 37
 Leu Ile Pro Ala
 1

<210> 38
 <211> 6
 <212> PRT
 <213> *Saccharomyces cerevisiae*

<400> 38
 Glu Ala Glu Ala Glu Phe
 1 5